

PATENT

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WHAT IS CLAIMED IS:

1. An input circuit for receiving a signal at an input on an integrated circuit and for assessing the signal with respect to a reference voltage, comprising:

a termination circuit for setting a termination voltage, wherein the termination circuit includes a first resistor and a second resistor connected in series between a high voltage potential and a low voltage potential, a first voltage-dependent resistor element having a first resistance gradient connected in parallel with the first resistor; and a second voltage-dependent resistor element having a second resistance gradient connected in parallel with the second resistor;

wherein the termination voltage is tapped between the first and second resistors; and

wherein the resistance values of the first and second resistor elements are controlled by a control voltage to set the termination voltage.

2. The input circuit of claim 1, wherein the first and second resistance gradients have different arithmetic signs.

3. The input circuit of claim 1, wherein the first and second voltage-dependent resistor elements comprise transistors.

4. The input circuit of claim 1, wherein the first voltage-dependent resistor element comprises a p-channel field effect transistor and the second voltage-dependent resistor element comprises an n-channel field effect transistor.

5. The input circuit of claim 1, further comprising:

a control circuit for producing the control voltage, the control circuit comprising a voltage generator circuit for producing a comparison voltage and a differential amplifier;

wherein the comparison voltage and the reference voltage are applied to inputs on the differential amplifier; and

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wherein the control voltage is tapped from an output on the differential amplifier and applied to respective control inputs of the first and second resistor elements.

6. The input circuit of claim 5, wherein the comparison voltage is applied to a noninverting input and the reference voltage is applied to an inverting input of the differential amplifier.

7. The input circuit of claim 5, wherein a plurality of termination circuits are provided which are actuated by the control voltage generated by the control circuit.

8. The input circuit of claim 1, wherein the reference voltage is a voltage level which is approximately in the center between the high level and the low level of the received signal.

9. The input circuit of claim 5, further comprising a signal evaluation circuit for comparing the received signal with the reference voltage and assigning a signal value.

10. The input circuit of claim 5, wherein the voltage generator circuit includes a third resistor and a fourth resistor connected in series between the high voltage potential and the low voltage potential, a third voltage-dependent resistor element connected in parallel with the third resistor, and a fourth voltage-dependent resistor element connected in parallel with the fourth resistor;

wherein the comparison voltage is tapped from between the third and fourth resistors; and

wherein the output of the differential amplifier is applied to respective control inputs of the third and fourth voltage-dependent resistor elements.

11. A method for setting a termination voltage for an input circuit, comprising:

providing a termination circuit having a first resistor and a second resistor connected in series between a high voltage potential and a low voltage potential, a first voltage-dependent resistor element connected in parallel with the first resistor,

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and a second voltage-dependent resistor element having a second resistance gradient connected in parallel with the second resistor; and

controlling the first and second voltage-dependent resistor elements to set the termination voltage which is tapped between the first and second resistors.

12. The method of claim 11, wherein the first and second voltage-dependent resistor elements are controlled by a control voltage from a control circuit.

13. The method of claim 12, wherein the control voltage is determined by comparing a reference voltage against a comparison voltage utilizing a differential amplifier.

14. The method of claim 13, further comprising applying an output of the differential amplifier to an input of a voltage generation circuit for generating the comparison voltage.

15. The method of claim 14 wherein the voltage generator circuit includes a third resistor and a fourth resistor connected in series between the high voltage potential and the low voltage potential, a third voltage-dependent resistor element connected in parallel with the third resistor, and a fourth voltage-dependent resistor element connected in parallel with the fourth resistor;

wherein the comparison voltage is tapped from between the third and fourth resistors; and

wherein the output of the differential amplifier is applied to respective control inputs of the third and fourth voltage-dependent resistor elements.

16. The method of claim 11, wherein the control voltage sets the termination voltage at a value about the same as the reference voltage.

17. A circuit for receiving an input signal on an integrated circuit, comprising:

a termination circuit means for setting a termination voltage, the termination circuit means comprising a first and a second controllable resistor means for providing a first and a second resistances connected in series between a high

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voltage potential and a low voltage potential, wherein the termination voltage is tapped from between the first and second controllable resistor means, the termination voltage connected to an input connection pad on the integrated circuit.

18. The circuit of claim 17, further comprising:

a control circuit means for setting a control voltage utilized to control the first and second controllable resistor means.

19. The circuit of claim 18, wherein the control circuit means comprises a voltage generation means for generating a comparison voltage and an amplifier means for comparing a reference voltage against the comparison voltage to determine the control voltage.

20. The circuit of claim 19, wherein the control circuit means comprises a third and a fourth controllable resistor means for providing a third and a fourth resistances connected in series between the high voltage potential and the low voltage potential, wherein the comparison voltage is tapped from between the third and fourth controllable resistor means.